

6-3: Logarithm Functions

Warm-up: Solve without a calculator.

a. $10^a = .0001$

b. $10^a = .01$

c. $10^a = 1$

d. $10^a = \sqrt{10}$

e. $10^a = 100$

f. $10^a = 100,000,000,000$

g. $10^a = 0$

You have just solved some logarithm problems without knowing it!

Definition of logarithm:

Example 1: Evaluate.

a. $\log_6 \frac{1}{6}$

b. $\log_6 36$

c. $\log_6 \sqrt[5]{36}$

Example 2: Evaluate $\log_9 243$.

Common logarithms:

Example 3: Solve $10^y = 73$ to the nearest hundredth.

Example 4: Solve $\log t = 2.9$ to the nearest tenth.

Properties of Logarithms

1.

2.

3.

4.

5.

6.

7.

Homework:

*"The true sign of intelligence is not knowledge but
imagination." - Albert Einstein*